

What is Claimed is:

1. A method for providing name-face/voice-role association, comprising the steps of:

(a) determining whether a closed captioned text accompanies a video sequence;

5 (b) providing one of text recognition and speech to text conversion to the video sequence to generate a role-name versus actor-name list from the video sequence;

(c) extracting face boxes/voices from the video sequence and generating face models/voice models;

10 (d) searching a predetermined portion of text provided in step (b) for an entry on the role-name versus actor-name list;

15 (e) searching video frames for face models/voice models that correspond to the text searched in step (d) by using a time code so that the video frames correspond to portions of the text where role-names are detected;

20 (f) assigning an equal level of certainty for each of the face models/voice models found in step (e);

(g) using lip reading to eliminate face models found in step (e) that pronounce a role-name corresponding to said entry on the role-name versus actor-name list;

(h) scanning a remaining portion of text provided in step (b) and updating a level of certainty for said each of the face models/voice models found in step (e);

25 (i) determining whether a particular face model/voice model and role-name association has reached a threshold;

(j) storing the role-name, actor name, and particular face model/voice model in a database when the threshold for the particular face model/voice model has been reached.

2. The method according to Claim 1, further comprising:

(k) repeating steps d through j for each entry on the role-name versus actor-name
5 list.

3. The method according to Claim 1, wherein step (j) includes

(i) backpropagating and marking all video segments of the video sequence
containing the particular face model/voice model.

4. The method according to Claim 1, wherein the extracting of face boxes in step
(c) is performed using an eigenvector based method for face matching.

5. The method according to Claim 1, wherein the extracting of face boxes is
performed by using model-based face extraction.

6. The method according to Claim 1, wherein the voice models are determined by
using MFCC (Mel frequency cepstral coefficients).

7. A method for providing name-face/voice-role association, comprising the
steps of:

(a) receiving a user query providing at least one of a role-name, actor name,
20 portion of text spoken by an actor, and image of an actor;

(b) searching a database containing role-names, actor names, text, and face models/voice models associated with the role-names, actor names, and text to find data matching the query in step (a);

(c) providing the user with information cross-referenced by at least one of the role-name, actor name, portion of text, and voice model and face model matching the image of the actor.

8. The method according to Claim 7, wherein the information provided in step (c) corresponding to the role-name, actor name and portion of text is in the form of hyperlinked titles of actor names, role names, and program titles.

9. The method according to Claim 7, wherein the face model is a photo.

10. The method according to Claim 7, wherein the face model is provided to the user in a video segment.

11. The method according to Claim 10, wherein the video segment includes a voice model associated with the face model.

12. The method according to Claim 7, wherein the information provided is a an audio segment containing a voice model of the queried one of role-name, actor-name, and text.

13. The method according to Claim 8, wherein the information provided in step (c) includes biographical information associated with the actor name and a list of all programs in which the actor name appears.

5 14. The method according to Claim 11, wherein the information provided in step (c) includes providing additional face models/voice models associated with said actor name in at least one of all the programs in which the actor name appears.

15. The method according to Claim 8, wherein the information includes historical information with regard to the role name.

16. The method according to Claim 14, further comprising providing links to view the additional face models/voice models associated with said actor name in at least one of all the programs in which said actor name appears.

17. The method according to Claim 8, wherein the information includes cross references to directors and producers of the program.

18. The method according to Claim 7 , further comprising: using speech
20 recognition to receive the user query in step (a).

19. A system for providing name-face-role association, comprising:
a processor;

storage means for the processor;

a database which is accessible by the processor;

means for detecting closed captioned text of a program;

means for extracting face boxes and generating face models/voice models

5 of the program;

a search engine used by the processor for searching the program by role-name versus actor-name for a particular role name;

lip reading detection means for identifying a face model of the particular role-name in the program by eliminating face models which pronounce the particular role name;

communication means for providing a user with the identity of the particular role-name;

means to update the database with the face model/voice model of the particular role-name associated with actor name.

20. The system according to Claim 19, further comprising speech-to-text conversion means for use in the absence of closed-captioned text.

21. The system according to Claim 19, wherein the processor, means for detecting closed captioned text, means for extracting face boxes, and the search engine are arranged in a network server.

22. The system according to Claim 21, wherein the communication means between the user and the system is the Internet.

23. The system according to Claim 21, wherein the communication means
5 between the user and the system is one of fiber optic and RF.

24. The system according to Claim 23, wherein the particular role-name provided to the user by the communication means is communicated to the user in HTML format.

25. The system according to Claim 19, wherein the program in containing the role-name versus actor name is one of broadcast, videotape, videodisc, and videostream.

26. The system according to Claim 19, wherein the system comprises a home video system.

27. The system according to Claim 19, wherein the system comprises a teleconferencing system.